National Institute of Standards & Technology

Certificate of Analysis

Standard Reference Material 73c

Stainless Steel, 13% Chromium

	C	Mn	P	S	Si	Cu	Ni	Cr	V	Mo	N
Analyst	Direct combustion	Persulfate-Arsenite	Photometric	Combustion Iodate titration	Perchloric acid dehydration	Photometric	Photometric	$FeSO_4$-$KMnO_4$ titration		Photometric	Distillation-titration
1	0.311	[a]0.330	[b]0.020	[c]0.036	[d]0.179	[e]0.082	0.248 [e]0.244	[f]12.85	[g]0.028 [h]0.033	0.089	0.037
2	0.310	[i]0.34	[j]0.017	0.039	[d]0.181	[k]0.077	[l]0.241	12.81	[g]0.031	0.092	0.037
3	0.308	[a]0.326	[j]0.017	0.036	[d]0.182	[m]0.082	0.251	12.82	[n]0.028	0.095	0.037
4	0.309	[o]0.325	0.017	0.035	[d]0.181	[p]0.081	[q]0.248	[f]12.80	[g]0.032	0.087	0.036
Average	0.310	0.330	0.018	0.036	0.181	0.080	0.246	12.82	0.030	0.091	0.037

[a] KIO_4 photometric method.
[b] Molybdenum-blue photometric method. See J. Res. NBS 26, 405 (1941) RP1386.
[c] 1-g sample burned in oxygen at 1,425 °C and sulfur dioxide absorbed in starch-iodide solution. Iodine is liberated from iodide by titration, with standard KIO_3 solution. Titer is based on 93 percent of the theoretical factor.
[d] Double dehydration with intervening filtration.
[e] Polarographic method.
[f] Chromium oxidized with ammonium persulfate and titrated potentiometrically with ferrous ammonium sulfate.
[g] Vanadium oxidized with nitric acid and titrated potentiometrically with ferrous ammonium sulfate.
[h] Activation analysis method.
[i] Chromium volatilized as CrO_2Cl_2.
[j] Alkalimetric method.
[k] H_2S-CuS-CuO method.
[l] Electrolytic method.
[m] Cuprizone photometric method.
[n] Oxidized vanadium titrated amperometrically with ferrous ammonium sulfate.
[o] Atomic absorption method.
[p] Neocuproine photometric method.
[q] Dimethylglyoxime gravimetric method.

The steel for the preparation of this standard was furnished by the Allegheny Ludlum Steel Corp., Brackenridge, Pennsylvania.

This Certificate of Analysis has undergone editorial revision to reflect program and organizational changes at NIST and at the Department of Commerce. No attempt was made to reevaluate the certificate value or any technical data presented in this certificate.

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(Revision of certificate dated 7-13-66)

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The technical and support aspects involved in the original preparation, certification, and issuance of this Standard Reference Material were coordinated through the Standard Reference Materials Program by W.W. Meinke. Revision of the certificate was coordinated through the Standard Reference Materials Program by P.A. Lundberg.